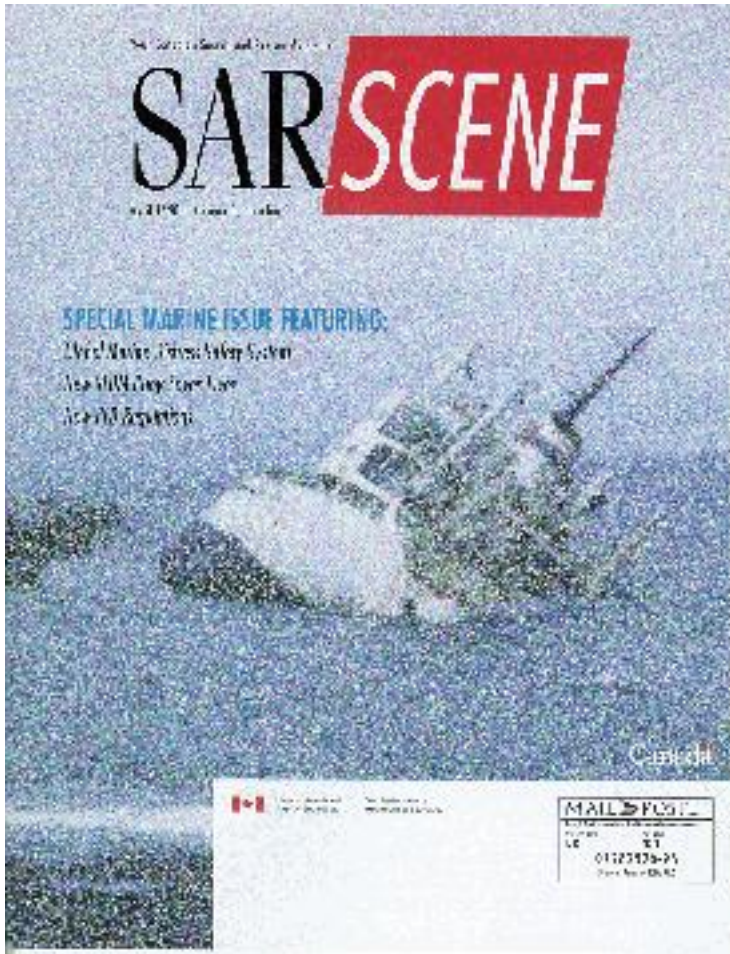


# SARSCENE - April 1998



## TABLE OF CONTENTS (abridged)

### LETTERS

[Letters to the Editor](#)

[SARVAC Update](#)

### SAR TECHNOLOGY

[Around the World in 80 Clicks](#)

[SAR and the Internet](#)

[Space Age Dummy Rides Real Wave](#)

[Ground SAR Council](#)

[Help is on the Way – Faster than Ever](#)

[The Millenium Is Coming](#)

[New Self-locating Datum Marker Buoy Saves Lives!](#)

### SAR LIBRARY

[Book Reviews](#)

### SAR TRAINING

[Marine First Responders Training](#)

[Boatwise](#)

[The Power of Water Search Dogs](#)

### MARINE SAR

[PFD Checklist](#)

[Safety on the Water](#)

[Changes in Safe Boating Regulations](#)

[OPP Underwater Search and Recovery Unit \(USRU\)](#)

[The Canadian Beacon Registry](#)

[The SAR Research and Development Mailing List](#)

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## Letters to the Editor

Dear SARSCENE:

K-9 Scent Detectives is an organization of dogs and handlers specializing in the detection of live and deceased individuals. We currently work with bloodhounds, bull mastiffs and a Weimaraner. The hounds are certified with Washington State/North West Bloodhound SAR and we are working on recognition for Canada. We are members of Mission SAR and having this resource available is an asset.

It is a continual challenge to arrange training search scenarios to keep canines on their toes and handlers' wits about them. It is a team effort as the dog is only as good as the handler's interpretation of body language, scent theory, atmospheric and terrain condition.

We are constantly looking for people to lend a scent, be it a two-hour urban errand or a two-day bush-wacking adventure. If anyone is interested in lending a scent or utilizing our resources in a current or past unsolved missing person or crime scene case, please contact:

K-9 Scent Detectives  
32534 Ptarmigan Drive, Mission, BC  
V2V 4X8

Tel: (604) 826-2128  
Pager: (604) 514-6114

[ [Top](#) | [SARSCENE Homepage](#) ]

---

## SARVAC Update

The Search and Rescue Volunteer Association of Canada (SARVAC), in its second year of operation, is now officially incorporated under a federal charter.

Among the many questions about our progress, the one I hear most often is, "What is SARVAC doing with our future?" Well, I assure you, the "ground pounding" SARVAC volunteers are still active search and rescue participants. As for our efforts at solidifying a national program, 11 committees have been formed and have begun reporting on their progress.

My next update will go into more detail about committee activities and participants.

Progress toward adoption of a SARVAC symbol has been slow as we tackle more important issues. Our priorities include resolving insurance issues, determining SAR involvement with policing and emergency measures, fund raising and increasing our press exposure. By working as a team in Canada, SARVAC can make a difference.

*I encourage you to contact us with your comments.*

*Allan C. Lang  
President, SARVAC*

*Information on SARVAC Inc. can be found on the Web  
(<http://www.sarvac.org/>).*

*26 Arbor Drive, Sault Ste Marie, Ontario P6C 5L6*

Voice mail: (705) 945-6877, Fax (705) 945-8342

E-mail: sarvac@soonet.ca

[ [Top](#) | [SARSCENE Homepage](#) ]

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## **Around the World in 80 Clicks**

<http://www.ozemail.com.au/~rescue:>

New South Wales Volunteer Rescue Association, Australia, has 77 community-based members, each one an accredited primary responder or marine rescue organization. Among them, these groups cover a geographical area of 800 642 square kilometres and face a wide variety of terrain from coastline and rainforest to desert and mountains.

<http://www.ualberta.ca/~dcheth/sara.html:>

Search and Rescue Alberta: This site profiles the activities of Alberta's provincial association, Search and Rescue Alberta, and includes a unique data collection program where you can create and keep your own record of missions.

[http://worldserver.pipex.com/cospas-sarsat/:](http://worldserver.pipex.com/cospas-sarsat/)

Do you love high tech? Then check out this site which explains the concepts and technology behind the COSPAS-SARSAT system.

<http://www.nss.gc.ca:>

The National Search and Rescue Secretariat: C'mon, of course we have to tell you about our site! Where else can you get past issues of SARSCENE magazine, information on the National Search and Rescue Program and links to all sorts of SAR organizations. Now on-line: The 1997 *Directory of Canadian SAR Organizations* in English and French.

[ [Top](#) | [SARSCENE Homepage](#) ]

---

## **SAR and the Internet**

It seems that you can find information on just about anything on the Internet. Internet use has been growing rapidly in the last few years and shows no signs of slowing down.

The SAR community is well represented on the Web, with sites from large international agencies and volunteers all promoting safety and providing glimpses into how SAR is carried out around the world.

One of the most useful sites for people is the one belonging to the Search and Rescue Society of British Columbia (SARBC). This site links search and rescue programs, search management and a vast number of SAR-

related topics. Discussion forums allow people from around the world to debate topics such as critical incident stress, rope rescue or urban SAR.

Visitors can register their SAR group into a data base, read the latest SAR news or submit articles for others to read. Mike Doyle, the Webmaster for SARBC says the site has done a lot for his group. "The biggest benefit of having a Web site is the exposure you gain." says Doyle. "The Internet has grown so much, that it's pretty easy to get a Web site up and running." he said.

*If your SAR group has a website, please e-mail us and let us know!*

E-mail: [carole@nss.gc.ca](mailto:carole@nss.gc.ca)

<http://www.nss.gc.ca>

[ [Top](#) | [SARSCENE Homepage](#) ]

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## **Space Age Dummy Rides Real Wave**

In Spring 1998, the Institute of Marine Dynamics in St. John's, Newfoundland, will become the new, temporary home of a revolutionary device known as the Sea Water Instrumented Manikin (SWIM). Developed by Armstrong Laboratory (an arm of the U.S. Air Force) in co-operation with engineers from Transport Canada and the U.S. Coast Guard, SWIM is a sophisticated data recording unit that will enhance the accuracy and flexibility of life jacket performance testing.

SWIM was developed primarily to enhance the performance evaluation of all forms of life jackets, but particularly those used by children. It was also devised to validate the water-forces analysis capability (WAFAC) computer program which can predict human body responses to water forces. The merger of these two instruments will have a significant impact on Transport Canada's life jacket approval process which currently requires the participation of human subjects. SWIM will significantly reduce the risk and complexity associated with the use of humans and enable testing under more realistic conditions.

SWIM is made with state-of-the-art materials – polyvinyl skin with foam-filled cavities – and is modelled after an average North American male (77 kilograms, 178 centimetres). Cavities within the skin can be filled with extra weights to simulate a range of human body types. SWIM is articulated to allow for free movement of the extremities, but is fitted with adjustable recoil springs for a more realistic simulation of a semiconscious person. A 32-channel remote-control data recorder in the SWIM's chest cavity measures and logs acceleration, roll, pitch, heave, submergence and other movements.

In-water tests were successfully conducted for Transport Canada and the U.S. Coast Guard by the U.S. Air Force at Wright-Patterson Air Force Base, Ohio, in September, 1997.

*For more information contact:*

Gilles Gareau, Transport Canada  
Tel: (613) 991-3129

Reprinted from the December 1997 issue Transport Canada's Marine Safety Review.

[ [Top](#) | [SARSCENE Homepage](#) ]

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## Ground SAR Council

The National Ground Search and Rescue Council of Canada, composed of provincial and territorial emergency directors, officially adopted a mission statement and terms of reference at a meeting in conjunction with SARSCENE '97. As the third year of operation began, new officers were elected at the February 1998 meeting. For details, contact John Chaffey at the National Search and Rescue Secretariat.

The following is the distribution list for the National Ground SAR Council of Canada:

<b>MEMBER</b>	<b>REPRESENTING</b>	<b>VOICE</b>	<b>FACSIMILE</b>
Mike Lester	EMO Nova Scotia	(902) 424-5620	(902) 424-5376
Inez Miller	Manitoba EMO	(204) 945-4772	(204) 945-4620
Jim Ellard	EM Ontario	(416) 314-8621	(416) 314-3758
Jim Stith	EMO New Brunswick	(506) 453-5505	(506) 453-5513
Eric Bussey	EMO Northwest Territories	(403) 920-6133	(403) 873-8193
Eric Magnuson	EMO Yukon	(403) 667-5220	(403) 393-6266
Ron Wolsey	Alberta Disaster Services	(403) 422-9000	(403) 422-1549
Tony Heemskerck	British Columbia PEP	(250) 387-5956	(250) 952-4888
Wayne Marr	Saskatchewan EP	(306) 787-9563	(306) 787-1694
Michael Francis	EMO Prince Edward Island	(902) 368-5582	(902) 368-5526
Elizabeth Peckham	Newfoundland and Labrador	(709) 729-3703	(709) 729-3857
Allan Lang	SARVAC	(705) 945-6877	(705) 945-6877
Bill Bedford	RCMP HQ	(613) 993-8438	(613) 998-2405
John Chaffey	NSS	(613) 996-3727	(613) 996-3746

[ [Top](#) | [SARSCENE Homepage](#) ]

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## **Help is on the Way – Faster than Ever**

In any emergency situation, communication can often mean the difference between survival and disaster. This was the case on 16 January 1998, when the motor vessel (M/V) Flare, a 160-metre bulk carrier with 25 people on board, issued a distress message.

They were abandoning ship approximately 50 nautical miles south of Newfoundland. When search aircraft and vessels arrived on the scene, they discovered that the 25-year-old vessel had split in two, with the bow section afloat and the stern underwater. Of the 25 crew members, four were rescued alive, clinging to the hull of an overturned lifeboat.

The crew members on the M/V Flare had issued the distress call by pushing the distress button on the INMARSAT-C terminal. INMARSAT is the satellite communications system which forms an integral part of the Global Maritime Distress and Safety System (GMDSS).

GMDSS is a new, international communications system. Using improved terrestrial and satellite communications technology, GMDSS enhances the existing maritime communications system by ensuring rapid allocation of shore-based rescue and communications authorities in response to distress calls. The system also alerts other ships in the immediate vicinity, improving the odds of locating survivors.

Although "big ships" have been using GMDSS since 1992, it is not solely a big ship issue. It will affect both pleasure and small commercial vessels, as all vessels will have to upgrade to GMDSS standards. During the transition, there will be a communications gap between the existing and the new system, which if not effectively managed could cause problems: non-GMDSS equipped vessels may not be aware that a GMDSS vessel is in distress and vice versa.

Effective 1 February 1999, all cargo ships weighing 300 gross tonnes or more and all passenger vessels on international voyages will be required to use the new GMDSS technology. This means that distress signals sent by marine SAR and recreational boaters via VHF, MF or HF radios may not be received by these large ships. Although GMDSS equipment will not be mandatory on pleasure craft, the Canadian Coast Guard (CCG) recommends that these craft carry equipment applicable to their area of operation.

During the transition, the CCG will monitor both GMDSS VHF-DSC channel 70 and traditional distress frequencies on VHF channel 16 and MF 2182 kHz until the year 2003. Once the GMDSS technology has been fully implemented and lower cost Digital Selective Calling (DSC) equipment is available, these watches will be discontinued. Canadian Rescue Co-ordination Centres and Maritime Rescue Sub-Centres through Coast Guard Marine Communications Traffic Services (MCTS) Centre will continue to receive signals sent via traditional radio frequencies but will also receive GMDSS distress alerts and re-issue an "all ships" broadcast in the vicinity of the distressed vessel.

### *GMDSS Sea Areas – International*

All GMDSS ships must be capable of two-way communication with on-shore rescue facilities. Their equipment

is therefore determined by the area of operation and the availability of shore-based communications services.

Four Sea Areas are defined in the GMDSS:

Sea Area A1: Within range of a shore-based VHF DSC coast station (40 nautical miles)

Sea Area A2: Within range of a shore-based VHF DSC coast station excluding Area A1, 150 nautical miles

Sea Area A3: Within coverage of an INMARSAT geostationary satellite (approximately 70°N to 70°S) excluding Areas A1 and A2

Sea Area A4: Polar regions, the remaining areas outside A1 to A3.

In Canada, sea areas A1 will be implemented on the east and west coasts, with A3 areas beyond those and an A4 area in the Arctic Ocean. At this time, there will be no A2 area implemented nor any designation for the Great Lakes or St. Lawrence River. Full implementation of the GMDSS sea areas is scheduled for 2003.

## **GMDSS Equipment**

### *Digital Selective Calling (DSC)*

This feature enhances traditional marine radio (VHF/MF/HF) by allowing vessels to maintain automatically the required watch on distress and calling channels instead of the current listening watch. A DSC receiver will respond only to the vessel's unique Maritime Mobile Service Identity Number (MMSI#) – similar to a telephone number – or to an "all ships" DSC call. Any follow-up communications take place by voice on a different frequency.

### *Satellite Communications*

The INMARSAT satellite network provides global communications except in polar regions. In areas without VHF or MF DSC shore facilities, INMARSAT A, B or C terminals are used for distress alerting and ship-to-shore communications.

### *Emergency Position Indicating Radio Beacon (EPIRB)*

GMDSS uses the COSPAS-SARSAT satellite system with its global detection of 406 MHz EPIRBs. These small, buoyant beacons can send a distress alert anywhere in the world. Float-free EPIRBs (class 1) are mandatory for commercial vessels but are highly recommended for all vessels. All beacons are registered at the National Search and Rescue Secretariat (1-800-SAR-9414).

### *Search and Rescue Transponder (SART)*

SARTs are portable radar transponders used to locate survivors of distressed vessels, which have sent a distress

alert. They are detected by radar and operate in the same frequency range as radars carried on board most vessels. SARTs transmit in response to received radar signals and show up on a vessel's radar screen as a series of dots accurately indicating the SART's position. If a crew is forced to abandon ship, SARTs should be taken aboard survival craft.

### *Training*

False alerts are a major problem for maritime SAR providers. To reduce false alerts and ensure safety for the maritime community two GMDSS operator certificates are issued by Canada.

The General Operators Certificate (GOC) is required on most compulsorily fitted GMDSS vessels operating outside sea area A1 and involves a two-week training course including a written and practical exam.

Restricted Operators Certificate (ROC) with Maritime Qualification is the basic certificate for operators of compulsorily fitted GMDSS vessels operating in an A1 sea area. It is also recommended for operators of GMDSS equipment on voluntarily fitted vessels. This certificate is obtained after passing an approved written exam.

*Special thanks to Mike Voigt, CCG Headquarters for his assistance in the preparation of this article.*

*For more information on GMDSS and its impact on the maritime community contact:*

*Transport Canada Marine Safety Regional Offices*

*Canadian Coast Guard Regional Offices of Boating Safety*

*Marine Communications and Traffic Service Centres*

*Canadian Coast Guard Boating Safety Info Line 1-800-267-6687 or [www.ccgrser.org](http://www.ccgrser.org)*

[ [Top](#) | [SARSCENE Homepage](#) ]

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### **The Millenium is Coming! The Millenium is Coming!**

The year 2000 (Y2K) issue is daily demanding more attention. With the new millennium, computer systems without Y2K compatibility are expected to fail. These failures will occur as the result of an inadequate programming capability. The root of the problem is that all computers have internal clocks, and many are limited to displaying the date as YY/MM/DD. When the next century hits, unprepared computers will register the year 00 as 1900, not 2000. The glitch may affect any computer with a number system that ignores the first two digits of the year, creating a paradox in the internal computer system and in computer programs that calculate or store information by date. The consequences are unpredictable and anything connected to a system not Y2K compatible may be affected. Outcomes may include system crashes and data loss. Enormous amounts of time and

money are being put toward creating a solution to this dilemma.

### *Impact on the Canadian SAR System*

Organizations must consider total immobilization as a possible outcome. Insurance may be unobtainable

for organizations with no plan for recovery; electricity may be inaccessible or inoperable; date-sensitive items (such as user ID, passwords, authorizations, licences, network/physical access controls) may be erased or revoked. SAR organizations must be prepared to cope without essential services. SAR is involved with software applications, hardware and operating systems, embedded boating equipment, communications equipment, legal consequences and external dependencies. Ensure that the companies you rely on have solved their Y2K problems. The deadline cannot be moved.

The Canadian information source is the Y2K Task Force's Web site at [strategis.ic.gc.ca/year2000](http://strategis.ic.gc.ca/year2000).

The federal government has created an initiative focused on making in-house programs Y2K compatible. These programs include the Canadian Coast Guard's CANSARP and SISAR; the National Search and Rescue Secretariat's Canadian Beacon Registry; and the Department of National Defence's Rescue Co-ordination Centre (RCC) Automation Project. In the coming months, the Treasury Board will receive final submissions from the various departments detailing the computer systems that must be dealt with, and outlining plans for action and costs.

Mike Voigt, of Canadian Coast Guard Headquarters, SAR Branch, considers the public communications network the single most vulnerable system in SAR operations. These communications rely primarily on the phone system, the backbone of the SAR system. It must be prepared for the year 2000.

SAR organizations must realize that the equipment owner is responsible for ensuring Y2K compliancy. There is no "big brother" watching out for individuals. The purchaser of any new equipment is responsible for ensuring its capabilities.

Digital computers are likely to survive the turn of the millennium, but organizations can avoid incurring more Y2K hazards by accepting only those products with a Y2K compliance certificate. To determine whether a product is Y2K compliant, contact your software vendor hotlines or manufacturers.

*Jaime Evashkevich*  
*University of Calgary Co-op Student, NSS*

[ [Top](#) | [SARSCENE Homepage](#) ]

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## **New Self-locating Datum Marker Buoy Saves Lives!**

On 23 October 1997, Rescue Co-ordination Centre (RCC) Halifax received a message from the motor vessel (M/

V) *Choyang World* stating that the M/V *Vanessa*, a 109-metre cargo ship with 15 people on board, was listing heavily and in danger of sinking. It was approximately 450 nautical miles southeast of St. John's, Newfoundland. Weather conditions on the scene were poor with high winds and heavy seas.

At the time, the *Choyang World* was four nautical miles from the distressed ship. RCC Halifax tasked a Canadian Forces Hercules, an Aurora and Canadian Coast Guard ships (CCGS) *Cape Roger* and *J E Bernier*. Several commercial vessels in the area were also tasked.

Two hours later, the master of the M/V *Vanessa* gave the order to abandon ship into two liferafts. The M/V *Choyang World* was standing by but heavy seas and the high freeboard of the *Choyang World*, a fully loaded container ship, made it impossible to rescue the victims. Within the hour, as night fell, the liferafts were lost and the *Vanessa* sank from view.

At dusk, the Hercules and Aurora arrived on the scene with a second commercial ship. RCC Halifax ordered the Hercules to drop a "self-locating datum marker buoy" (SLDMB) at the last known position, then start searching for the liferafts. This was the first-ever deployment of an SLDMB during a SAR mission. Later, a second marker was deployed.

Just before midnight, the Aurora located a liferaft. Nine survivors were recovered, including the master. He reported that the remaining six crew members had been washed off the vessel and none were believed to be wearing survival suits, only life jackets.

In the early hours of 24 October, SAR controllers at RCC Halifax received the first satellite "hit" from the SLDMB. It indicated that the sea current was setting in a westerly direction opposite to the southeasterly direction displayed in the historical data base used by the Canadian Search and Rescue Planning Program (CANSARP). SAR controllers use CANSARP to calculate datum in a maritime search automatically. CANSARP defines a search area centred on this data and breaks it down into sub-areas which are then assigned to each resource to search.

Using the "near real-time" current information obtained from the SLDMB, RCC Halifax re-oriented the search area 20 nautical miles to the west and continued looking for the six persons still in the water.

Several hours later, the Hercules located a debris field containing orange objects and strobe lights. CCGS *Cape Roger* was brought into this field and over the next two hours, recovered one survivor and four more bodies. Two SAR Techs parachuted from the Hercules to the survivor to administer medical care and all three were recovered by CCGS *Cape Roger*. The search continued throughout the day for the last missing person, with negative results.

In total, five Canadian Forces Hercules and Auroras, one U.S. Coast Guard Hercules, two Canadian Coast Guard ships and six commercial ships participated in this search. Although the loss of five persons remains a tragedy, the rescue of 10 others is something in which all personnel involved in this mission can take pride.

In the initial RCC Halifax debriefing, the SAR controllers stated, "In conclusion, without the SLDMB information, we would have searched the wrong area, and almost definitely would not have located and rescued the survivor [in the water] in time."

Datum marker buoys (DMBs) have been used for some time in maritime SAR cases and real-time sea current data have been proven to increase the accuracy of search planning. The drawback with traditional DMBs is the manual tracking by on-scene air and surface units using VHF or UHF homing, which interferes with the job of searching for the survivors.

To overcome these limitations, the SLDMB development began five years ago. Trials were conducted with the "accurate surface tracker" (AST) buoys used by meteorologists. These buoys are deployed by ship and tracked by the ARGOS satellite system. The conclusion was that to get the SLDMB to a SAR incident quickly, the buoy had to be dropped from the air and should simulate the drift of both a person and a liferaft in the water. The "air-droppable datum marker buoy" (ADDAM Buoy) was next a great leap forward. Still, there were problems in buoy size and compatibility with airborne operations.

The next step was to put the buoy into a standard sonobuoy launch package. This technique is compatible with existing military air launch equipment and makes the SLDMB a cost-effective tool for maritime SAR. This project is nearing completion, with final air-worthiness trials and modifications this year.

Through a joint effort by the Canadian Forces and Canadian Coast Guard under the scientific authority of the DND Defence Research Establishment Atlantic, this project exceeded all initial expectations and entered into its final phase of development. Five years and \$1.4 million of effort have been invested by the New SAR Initiatives Fund of the National SAR Secretariat (NSS), Canadian Coast Guard, Canadian Forces and Transport Canada.

Special thanks must go to the contractor, SEIMAC Ltd. of Dartmouth, Nova Scotia, for the hard work and dedication to this project from the beginning. This project is an outstanding example of Team SAR's commitment to saving more lives!

*To obtain more information on SLDMBs please contact:*

*Greg Leger, SEIMAC Ltd., Dartmouth, N.S.  
Tel: (902) 468-3007*

*Mike Voigt, Canadian Coast Guard  
Search and Rescue Branch, Tel: (613) 993-6839*

[ [Top](#) | [SARSCENE Homepage](#) ]

---

## **Book Reviews**

*Le Guide pratique de survie en forêt*

*by Jean-Georges DesChenaux,  
Published by Les Éditions de l'homme*

(ISBN 2-7619-1401-5)

Tel: (514) 523-1182)

The Guide pratique de survie en forêt (Practical Guide to Survival in the Woods) is specially designed for the Canadian climate, especially that of Ontario and Quebec, and describes various aspects of survival in the North American forest. It is more than a reference work for emergency situations; it will help you plan forest excursions and handle any unforeseen incidents.

The information on orientation will enable you to plot your route and to stay on the trail when you are out in the country. The author prepares you for almost anything, covering subjects ranging from topographical maps to the global positioning system (GPS) and from Morse code to the making of a compass.

If you do lose your way in the woods you should know which plants and mushrooms in our climate are edible and which are dangerous, how you can make water drinkable, how to make a fire with whatever is available and a thousand and one other tips to help you survive. The Guide will even teach you some meteorology and how to survive the onslaught of mosquitoes and flies in the Ontario and Quebec forests!

This comprehensive work is a wonderful preparation and information tool and, even more important, is one of the few in French on survival in the Canadian temperate zone forest.

### *Dangerous Waters Wrecks and Rescues off the BC Coast*

*by Keith Keller, Harbour Publishing 1997  
(PO Box 219, Madeira Park, BC V0N 2H0)*

Dangerous Waters is a fascinating collection of daring West Coast marine rescues. Keith Keller has conducted extensive interviews with rescuers and survivors and delivers gripping accounts of each misadventure. Twenty-one cases are chronicled in the 303 pages. Maps are included along with photographs of many participants. Stories are brought alive with paintings by Graham Wragg.

Setting the scene with a description of the circumstances surrounding the event, the author lets the participants narrate chronologically. His methodical approach limits embellishment and contributes to the authentic feel. The reader is compelled to believe what he has written which is a tall order for some of these stories.

Some stories show how incompetent operators, inadequate equipment or poor maintenance can result in tales of woe. Also included are amazing descriptions of bravery and skill such as Jurgen Schulte of West Vancouver who, in this story, is credited with saving two lives while sailing single-handed.

Any mariner will enjoy these tales of the sea. The colourful first-hand accounts have been edited only for readability and retain the full impact of vivid memories. Boaters will undoubtedly absorb the subtle lessons from these true stories and will avoid making similar judgment errors.

*Reviewed by Maj Don Thain,  
Officer-in-Charge  
Rescue Co-ordination Centre Victoria*

## *Encyclopedia of Underwater Investigations, Correspondence Course Underwater Investigations*

Cpl Robert G. Teather C.V.  
Royal Canadian Mounted Police  
Best Publishing Company 1995  
ISBN 0-941332-49-7

Written for the professional public safety diver, the Encyclopedia of Underwater Investigations provides clear, step-by-step instruction on topics ranging from body recovery and evidence collection to presenting testimony. Cpl Teather has made highly technical information easy to understand. His graphic description of what happens to a drowning person gives the reader a clearer understanding of why physical evidence is so important. With plenty of colour photographs and graphics, this book guides the reader through all aspects of investigation, making any diver involved in body recovery better prepared. The accompanying correspondence course provides access to the kind of instruction formerly reserved for police and other enforcement agencies. Completion of the course is recognized by Dive Rescue International.

[ [Top](#) | [SARSCENE Homepage](#) ]

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### **Marine First Responders Training**

Canada is endowed with a vast and eclectic range of oceans, lakes and rivers. Unfortunately, with these bodies of water come an excessively large number of injuries and drownings associated with pleasure boating activities (power boats or sailing craft), sport activities (river kayaking, rafting), hunting and fishing. Drowning is the third leading cause of accidental death in Canada, next to automobile accidents and falls.

The Lifesaving Society has initiated education and awareness campaigns with respect to water-related risks. It has also worked with numerous partners (the Canadian Coast Guard, the National Search and Rescue Secretariat, fire brigades, police services and responders from the boating community) to develop a boating rescue program for first responders. The program meets the needs of teams specializing in boating and multidisciplinary search and rescue teams.

Each course module enables boating rescue personnel to upgrade their knowledge and to learn new rescue techniques. Modules include:

- Becoming a marine rescuer
- Marine search
- Approaching the emergency situation
- Using rescue equipment
- Rescue techniques
- Simulated situations.

Each module is flexible, so the training time can vary from 16 to 40 hours, depending on the needs of the trainees. There are many other advantages to this program. Training is carried out using the equipment of the organization and suggested recommendations. A boating rescue instructor can be trained for first responders in the organization, and there is a manual with numerous illustrations for the trainee.

Since the maximum ratio is 10 trainees per instructor, this course provides adequate guidance with at least three vessels per group (rigid or inflatable hull or jet-propelled). The knowledge acquired from the course can be put into practice in the simulation module. When the course is over, the group will be able to handle search and rescue operations competently and professionally.

It is important to emphasize that this course can be combined with a first-aid and resuscitation course. For further information you may call your provincial division of the Lifesaving Society or the Quebec Division.

*Luc Vagneux  
Co-ordinator, Boating Activities  
Lifesaving Society Quebec Division  
4545 Pierre-de-Coubertin  
P.O. Box 1000, Station M, Montréal, QC H1V 3R2  
Tel: (514) 252-3100, extension 3639  
Fax: (514) 254-6232  
Web site: <http://www.sauvetage.ca>  
E-mail: [alerte@sauvetage.ca](mailto:alerte@sauvetage.ca)*

[ [Top](#) | [SARSCENE Homepage](#) ]

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## **Boatwise**

In 1992, Grade 4 teacher Wendy Childerhose, of Parry Sound, Ontario, decided to take her class on a tug boat. However, to incorporate the field trip into the education program, she had to link it to a learning experience. From this humble beginning, the Boatwise Program was born to teach boating safety to the students.

The course was first developed and taught by power squadron retiree, Doreen Thomas. The 25-hour course includes information on the buoy system, right of way, boat identification, refuelling safety, minimum requirements on boats, basic navigation (latitude, longitude, how to read a chart), emergency procedures, including instruction on the proper use of VHF radio, and knots learned with a local scout troupe representative. Students pass seven different tests to be certified with the Boatwise Program. Since the beginning of the program, all participating students achieved the 80 per cent pass mark or better.

Offered in French and English, the program has been a tremendous success from the very beginning. This year, many schools from the Near North Board of Education will participate, and the information has also been sent to the Muskoka Board of Education, where the course is now given.

Besides teaching boating safety, the program encourages the students in other academic subjects by showing

them how to put their knowledge into practice. Mathematics, language (writing, communications), geography and team work are all key to becoming "boatwise." Parents are also enthusiastic. Besides learning more from their children about boating safety, they recognize the added value it brings to the academic program.

*For more information about Boatwise:*

*Wendy Childerhose, Tel: (705) 746-4459*

*21 Highland Crescent, Parry Sound ON P2A 1N7*

[ [Top](#) | [SARSCENE Homepage](#) ]

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## **The Power of Water Search Dogs**

Most people aren't aware that dogs can help find a body underwater. However, those who have seen dog teams in water searches are enthusiastic about this additional search method. Handlers and other search and rescue (SAR) teams know that human scent coming out of the water can be detected by dogs. "If dogs can find people in avalanches, why wouldn't they be able to find people underwater?" asks Carol A. Namur, President of Sauvetage Canada Rescue.

"Water search training is mostly training the handler in the knowledge and skills needed to map correctly the alerts given by the dog," stated dog handler Marian Hardy, from Mid-Atlantic D.O.G.S. It involves learning about currents and undercurrents in different kinds of water, hazards in rivers and streams (e.g., low head dams and ledges also known as the "drowning machines"), how scent reacts in different air and water temperatures, how water pressure and thermoclines work, boat safety and much more.

A dog handler since January 1981, Marian Hardy, who has twice been invited to make presentations on water search dogs at the Federal Bureau of Investigation (FBI) as part of the Location of Human Remains Program, did not start out in water search. After a few illuminating experiences, she became interested and conducted the National Water Search Study to help define rules for dog handlers and search managers.

Since then, she has been making information on water search and dogs available to as many people as possible.

In her article "How to Develop and Train a Water Search Dog Team," Marian Hardy highlighted the fact that "in searches on land, we have found that not just one search resource holds all the answers to solve the mystery of where the victim is located. The skills and experience of many types of resources are needed.

Most times, it is the co-ordinated effort of the team, not a single person's or one group's 'superior skill.' In water searches, no one resource holds all the answers either."

Royal Canadian Mounted Police (RCMP) dog handler Cpl Scott Barber performs water searches occasionally. Although the RCMP doesn't provide specific training due to lack of resources, Cpl Barber has started water searches partly because Magic, his German Shepherd, loves water.

To combine efforts in training and getting information, Cpl Barber is in contact with Will Devlin, Scott Ward and Gord Peyto, three Parks Canada dog handlers who also perform water searches on an experimental basis. "Water search is fairly new. We only used our dogs for water search twice in four years," says Will Devlin. Water search certification for civilian search dogs has been available through the RCMP since November 1997.

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## **Results of Water Searches by Dog Teams Total of 130 Victims**

The Water Search Fact Sheet resulting from the National Water Search Study was based on 122 water search reports from 25 dog units in the United States and one in Canada.

Of the 22 victims not recovered or found, in nine instances the dog alerts could not be followed up by divers or draggers because the water was too deep (150 feet 46 metres) or, in the case of flooded valleys, the trees, buildings and bridges underwater made it impossible to drag for bodies.

## **Some Common Myths About Water Searches**

MYTH: If you are a bad guy, the best way to give the police dog the slip is to walk through water.

FACT: The scent molecules of a person diffuse in the water, some evaporating in the air, some floating at the surface, making it possible for a dog to detect a body scent.

MYTH: In a drowning, eventually, the body will surface.

FACT: If the water pressure is higher than the pressure of the gases in the body cavities, the body will not float. Since water pressure increases as you go deeper, the further down a body is, the less likely it is to come up. For example, at 68 feet (20 metres), the water pressure is equivalent of twice that on land (or two "atmospheres"). Every 34 feet (10 metres) adds another atmosphere's worth of pressure on the submerged body.

MYTH: We don't really need dogs, we have divers.

FACT: In some instances, divers or draggers cannot be used either because the location may be too dangerous or deep for divers, or because the area is too large. Dog teams can help determine where the victim isn't and so narrow the search area for the divers. Dog alerts can also provide the basis for authorities to arrange for alternate recovery if divers cannot go down.

*Isabelle Beamont-Frenette,  
Communications and Public Relations Officer, NSS*

[ [Top](#) | [SARSCENE Homepage](#) ]

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## **PFD Checklist**

Take the checklist with you on your next visit to the pool or waterfront and test your lifejackets/PFDs.

1. Is it Canadian approved?
2. Will it support the person it was made for?
3. Are the straps, belts, ties, tapes and/or zippers on your life jacket/PFD in good condition?
4. Is it easy to put on and take off?
5. Can you move your arms freely when wearing it?
6. Does it let you bend at the waist? (Can you touch your toes while wearing it?)
7. Can you see the ground at your feet and walk over obstacles easily?
8. Does it keep your head above the water?
9. Relax in the water face down. Does it roll you to a face-up position?
10. Can you swim and manoeuvre easily in the water?

In a PFD, Look for These Important Features

- Proper size
- Large collar or head support
- Reflective tape
- Whistle
- Tie at waist with snug fitting drawstring or elastic on front and back of PFD
- Safety strap to prevent PFD from going up over child's head
- Buckle with safety strap
- Sturdy, rustproof zipper
- Neck ties
- Label stating PFD is Canadian approved
- Grab strap

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[ [Top](#) | [SARSCENE Homepage](#) ]

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**Safety on the Water**

### *National Water Safety Week: 30 May to 7 June, 1998*

The Canadian Red Cross, a member of the Canadian Safe Boating Council, is co-ordinating Canada-wide activities during National Water Safety Week from Saturday, 30 May, until Sunday, 7 June, 1998. The Red Cross, in collaboration with its partner, the Canadian Tire Child Protection Foundation, will offer information sessions on fitting and using personal flotation devices (PFDs). The theme is, "Buckles and Me...Friends for Life," and the Red Cross safety mascot "Buckles the PFD," will be at Canadian Tire Stores across the country. For more information on National Water Safety Week activities in your area, contact your local Red Cross office.

### *National Safe Boating Week: 6 June to 14 June, 1998*

The Canadian Coast Guard (CCG) and the Canadian Safe Boating Council (CSBC) are launching a joint campaign to promote awareness of new boating regulations and safe water practices. This one-year campaign will be launched in May 1998 and reinforced during National Safe Boating Week, from 6 to 14 June. All members of the CSBC have been encouraged to support this joint campaign through their own boating safety initiatives to promote awareness.

Kits are being assembled with information on new boating regulations and safety practices that will be in force in the summer of 1998, including changes regarding operator restrictions, vessel licensing and small vessel regulations. These kits will be available beginning in May 1998, through member organizations of the CSBC and CCG. For more information on this joint campaign or on new regulations, please contact the Canadian Coast Guard, Office of Boating Safety, Info-Line: 1-800-267-6687.

[ [Top](#) | [SARSCENE Homepage](#) ]

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## **Changes in Safe Boating Regulations**

The Office of Boating Safety will have new regulations in place for the 1998 boating season. Some important changes have been made regarding personal flotation devices, including the approval of inflatable PFDs. These new PFDs rest flat until the cord is pulled and they inflate automatically. Statistics, compiled by the Canadian Red Cross and the Lifesaving Society, show that over 85 per cent of drowning victims were not wearing a flotation device. The Coast Guard believes that the lightness and comfort of inflatable PFDs will encourage people to wear them.

The approval of inflatable PFDs is an important step toward changing the culture of PFD use. Boaters should consider their PFDs a personal item of safety equipment. Along with the inflatables, PFDs are also available in new colours. Manufacturers can now seek Canadian approval for PFDs in all colours.

What safety equipment must you carry on my boat to avoid being ticketed? If you're in a recreational craft up to six metres in length you must carry:

- An approved PFD

- Buoyant heaving line
- One bailer OR one manual pump
- Towline
- Manual propelling device (paddles)
- Fire extinguisher
- Distress signals (flare or flashlight)
- Navigation equipment

All recreational water activities will be affected by these rules, including power boats, canoes, kayaks, personal watercraft, sailboats, sailboards, and fishing or hunting craft.

*For more information or a copy of the Safe Boating Guide contact:  
Office of Boating Safety, Info-line: 1-800-267-6687.*

[ [Top](#) | [SARSCENE Homepage](#) ]

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## **OPP Underwater Search and Recovery Unit (USRU)**

Since 1964, officers from the Ontario Provincial Police (OPP) have been diving to recover explosives, missing or drowned persons and evidence in major crimes and incidents. Since 1996, 13 full-time members have been stationed in Gravenhurst (just north of OPP headquarters in Orillia).

Last year, the USRU had an overall recovery rate of 95 per cent. Sgt Wayne MacPherson, USRU program co-ordinator, indicates that lack of witnesses and evidence are the major causes of unsuccessful searches. In such cases, divers look for evidence in the region's popular paths, fishing spots and travel destinations.

The USRU also promotes security and the development of alternative means of underwater searching. Toward that goal, it engages in boating safety education and training for the province. Unit members visit schools and organizations to teach children and adults the risks involved around bodies of water, and safety measures to avoid accidents. The unit is also working, in co-operation with the National Research Council, manufacturers and the OPP, to develop a tow-video system so the crew can see underwater.

Even though the USRU is a recovery rather than a rescue unit, its divers have saved lives. While the unit was providing security services during an economic summit in Montebello, Quebec, on the Ottawa River, a pleasure boat capsized trapping two children underneath. Thanks to their life jackets, the children stayed afloat and were able to breathe in the air bubble in the hull until rescued by the divers.

One of the most challenging dives recalled by Sgt MacPherson was a train derailment in July 1992, near Nakina, Ontario. Four locomotives were submerged in Green Lake, and the unit was asked to recover evidence and the bodies of two crew men. Steel pipes from the flatcars and 400 feet (122 metres) of communication lines had fallen on the locomotives, making it almost impossible for the divers to move around. Moreover, visibility was nil due to diesel fuel and oil leaking from the derailed locomotives.

Members go through a very selective process established over 20 years ago to become divers with the USRU. Since its reorganization in 1996, when the unit was reduced from 34 part-time divers to 13 full-time divers, there have been no new members. However, the OPP has a number of qualified divers within the organization to rely on if needed.

*Isabelle Beaumont-Frenette*  
*Communications and Public Relations Officer NSS*

[ [Top](#) | [SARSCENE Homepage](#) ]

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## **The Canadian Beacon Registry**

This spring, the Canadian Beacon Registry will be maintained exclusively by the National Search and Rescue Secretariat (NSS). Created by the merger of the Canadian Coast Guard Emergency Position Indication Radio Beacons (EPIRBs) Registry and NSS Personal Locator Beacons (PLBs) Registry, the new national registry will include PLBs, EPIRBs and Emergency Locator Transmitters (ELTs) in operation in Canada, thus allowing quicker and more efficient response to emergency situations. All beacons listed will be COSPAS-SARSAT approved and transmit on the 406 MHz frequency.

*If you have any changes, additions or deletions to be made to the Registry, contact*

*Marie-Claire Gaudreau, NSS*  
*Tel: (613) 996-1504 or 1 800 727 9414*  
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*E-mail: [mgaudreau@nss.gc.ca](mailto:mgaudreau@nss.gc.ca)*

[ [Top](#) | [SARSCENE Homepage](#) ]

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## **The SAR Research and Development Mailing List**

This automated e-mail discussion of issues related to research and development in search and rescue is moderated by Ken Hill of Saint Mary's University in Halifax, Nova Scotia, chairperson of NSS's SAR R&D Committee. Currently, there are more than 100 subscribers to the list, from six countries, representing various government, military and educational organizations, as well as persons from industry and volunteer SAR agencies.

To subscribe, send e-mail to [listserv@husky1.stmarys.ca](mailto:listserv@husky1.stmarys.ca) with the single line of text in the message body that reads: SUBSCRIBE SARRD-L <your e-mail address>.

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[ [Top](#) | [SARSCENE Homepage](#) ]

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Ottawa, ON  
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**We also have a toll-free number: 1-800-727-9414**

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[RETURN](#)